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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/837,755	04/19/2001	Markus Lotz	440465	9948

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EXAMINER

FORTUNA, ANA M

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 12/19/2002

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/837,755

Applicant(s)

Lotz et al

Examiner

Ana Fortuna

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Nov 26, 2002
- 2a) ☐ This action is FINAL.
- 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above, claim(s) 5-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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Claim Rejections - 35 U.S.C. § 112

1. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 is unclear as to whether the side-stream of the filter material is a permeate side of the membrane. Claim 2 is unclear, the section between parenthesis in step b) should be deleted.
2. Claim 1 recites the limitation "side-stream" and "feed side" in lines 3 and 5. There is insufficient antecedent basis for this limitation in the claim.
3. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

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In the present instance, claim 2 recites the broad recitation "retention rate below 2", and the claim also recites "about 0.1 microns", and "1 to 0.04 microns" which is the narrower statement of the range/limitation. Claim 3 also include a broad limitation for particle size of "below 100 microns", size "below 65 microns" and "25 microns" is also claimed within the same claim. In claim 4, the term "preferably" obtaining the wort from the first dynamic cross-flow filtration, which is open to read on collecting the wort from the "second membrane system".

Claim Rejections - 35 U.S.C. § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Daoud

(4,844,932) in view of Rochilgo et al (5,707,517)(hereinafter Rochilgo), or Lee (5,670,043).

Daoud discloses a masking process as claimed in claims 1-4, including crossflow filtration of wort from mash, which is retained in a feed side of a microfiltration membrane and remove from the membrane, producing a mash free of husk (abstract,, column 5, lines 11-21, column 7, lines 11-12, and lines 56-66). Daoud fails to disclose the microfiltration membrane filtration system as "dynamic" membrane system. Rochilgo teaches a dynamic cross flow membrane filtration system (abstract), and suggests using the filter in filtration processes having feed with a high solid

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content, e.g. fermentation broth, and in the beer making process (column 17, lines 27-68, and column 18, lines 1-19, in particular column 17, lines 65-68). Rochilgo also teaches the filtration system as provided with membrane filter having any pore size, and made of any material, including polymeric, ceramic, etc. (column 17, second paragraph, and column 15, lines 47-50). The benefits of using dynamic or rotating filtration systems as compared to conventional cross-flow filtration are also discussed in Rochilgo (column 2, lines 51-66). It would have been obvious to one skilled in the art at the time the invention was made to substitute the microfiltration membrane in the process of Daoud by a dynamic microfiltration membrane system as disclosed in Rochilgo, since Rochilgo suggests using his dynamic filtration system is solid separation and in the beer making process between others processes, which suggests using the dynamic system in mashing process or solid or mash separation form wort. Better control of the separation process, higher flow rates through the process can be expected by one skilled in the art when substituting the conventional crossflow of Daoud by a dynamic filtration system. Lee further teaches dynamic filtration system including a membrane for separation of solids form liquids, , the use of the filter in production of beverages, such as beer and malt containing beverages is disclosed (abstract, column 1, lines 10-26, and 56-61, column 2, second paragraph, column 3, lines 43-53); the membrane material and pore size suitable for the filtration is also disclosed (column 4, lines 23-34, and column 30, lines 54-57). It would have been obvious to one skilled in the art at the time the invention was made to use the microfiltration membrane made of Lee, since Lee membrane system is intended for separation of solids, including solids in the beer filtration process, and is

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made by the suggested materials and pore size capable of retaining the solids as disclosed by Daoud (column 4, last paragraph, and column 11, lines 46-47).

Regarding claim 2, ceramic membranes are disclosed in Daoud, as discussed in the section above).

As to claim 3, mash with grain size lower than 100 microns is disclosed in Daoud (column 4, lines 35-45). As to claim 4, using multistage membrane systems in the separation process is suggested in Daoud (column 5, lines 11-68, in particular lines 42-43).


6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Additionally cited references teach the cross-flow microfiltration of wort from mash, pretreatment, suitable membranes, and combined suitable systems.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ana Fortuna whose telephone number is (703) 308-3857. The examiner can normally be reached on Monday-Friday from 9:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can be reached on (703) 308-0457. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310 for regular responses, and (703)872-9311 for after finals.

Ana Fortuna

November 29, 2002



ANA FORTUNA
PRIMARY EXAMINER